What is claimed is:

1. A micromirror actuator comprising:

a substrate;

a trench in which at least one electrode is formed;

supporting posts installed at opposite sides of the trench;

a torsion bar supported by the supporting posts;

a micromirror including a driving unit which faces the trench when the micromirror is in a horizontal state, and a reflecting unit which is elastically rotated about the torsion bar to reflect an optical signal; and

a shielding electrode installed to face the reflecting unit when the micromirror is in the horizontal state and to block an electrostatic force occurring between the reflecting unit and the at least one electrode.

2. The micromirror actuator of claim 1, wherein the shielding electrode is formed to be in an equipotential state with the reflecting unit.

3. The micromirror actuator of claim 2, further comprising a slit formed at a predetermined portion of the reflecting unit of the micromirror.

4. The micromirror actuator of claim 2, wherein the at least one electrode is formed at at least one of a bottom and a sidewall of the trench.

5. The micromirror actuator of claim 2, wherein in the micromirror, the driving unit and the reflecting unit are formed to be asymmetrical and a length of the driving unit is smaller than a length of the reflecting unit.

6. The micromirror actuator of claim 5, wherein in the micromirror, a width of the driving unit is greater than a width of the reflecting unit.

7. The micromirror actuator of claim 1, further comprising a slit formed at a predetermined portion of the reflecting unit of the micromirror.

8. The micromirror actuator of claim 1, wherein the at least one electrode is formed at at least one of a bottom and a sidewall of the trench.

9. The micromirror actuator of claim 1, wherein in the micromirror, the driving unit and the reflecting unit are formed to be asymmetrical and a length of the driving unit is smaller than a length of the reflecting unit.

10. The micromirror actuator of claim 9, wherein in the micromirror, a width of the driving unit is greater than a width of the reflecting unit.

11. A method of manufacturing a micromirror actuator, comprising:

forming a trench pattern in a substrate;

forming a lower electrode and a side electrode in the trench pattern and forming a shielding electrode on a surface of the substrate outside the trench pattern

by sequentially depositing an insulating layer and a metal layer on the substrate and etching the metal layer;

depositing a sacrificial layer to a predetermined thickness on the surface of the substrate including the trench pattern;

forming holes for supporting posts by etching a predetermined portion of the sacrificial layer;

depositing a further metal layer on the sacrificial layer and patterning the further metal layer into a micromirror, a torsion bar, and supporting posts; and

forming the micromirror, the torsion bar, and the supporting posts by removing the sacrificial layer.

12. The method of claim 11, wherein in the step of depositing the sacrificial layer, a photoresist is deposited on the substrate and then is planarized by chemical mechanical polishing.

13. The method of claim 11, wherein the step of depositing the sacrificial layer comprises:

forming a photoresist pattern having a width greater than the trench pattern by depositing a first photoresist on the substrate and etching the first photoresist;

flowing and hard-baking the photoresist pattern at a high temperature;

thinly ashing the photoresist pattern; and

depositing a second photoresist to a predetermined thickness on the substrate including the photoresist pattern.

14. The method of claim 11, wherein the step of depositing the sacrificial layer comprises laminating a film type organic layer on the substrate so as to make the trench pattern hollow.

15. The method of claim 14, wherein the step of patterning the further metal layer comprises forming an electrostatic force prevention slit at a predetermined portion of the micromirror by an etching process.

16. The method of claim 12, wherein the step of patterning the further metal layer comprises forming an electrostatic force prevention slit at a predetermined portion of the micromirror by an etching process.

17. The method of claim 11, wherein the step of patterning the further metal layer comprises forming an electrostatic force prevention slit at a predetermined portion of the micromirror by an etching process.